characterized in that the mobile station in CDMA communication system is composed of an antenna for receiving a plurality of radio waves being arrived from the base station through the plurality of paths; an RF section for converting the plurality of radio waves received by the antenna into analog base band signals; an A/D section for converting the analog base band signals converted by the RF section into digital base band signals; a delay profile section for inversely spreading the digital base band signals converted by the A/D section in every predetermined periods of time to detect the respective peaks of the plurality of radio waves; and a rake synthesizing section for synthesizing data regenerated in each of the plurality of finger sections; the finger allocating section allocates a path timing corresponding to each peak position of the plurality of radio waves detected by the delay profile section to each of the plurality of finger sections, and further decides the path tracking range in each of the plurality of finger sections on the basis of each of distances of peak positions in the plurality of radio waves detected by the delay profile section; besides, each of the plurality of finger sections spreads inversely the digital base band signals converted by the A/D section within a path tracking range decided by the finger allocating section among segments positioned before and after each of path timings allocated by the finger allocating section. whereby data from the base station is regenerated.

Yet further, a method for allocating a finger of a mobile station in CDMA communication system involving a plurality of finger sections for spreading inversely each of a plurality of radio waves being arrived from a base station through a plurality

of paths to generate data from the base station according to the present invention comprises the steps of detecting each peak of the plurality of radio waves to allocate a path timing corresponding to each peak of the positions detected to each of the plurality of finger sections; and deciding a path tracking range in each of the plurality of finger sections; the plurality of radio waves being inversely spread within the path tracking rage among segments positioned before and after the path timing in each of the plurality of finger sections.

Further, a method for allocating a finger according to the present invention as described above is characterized in that the path tracking range in each of the plurality of finger sections is decided on the basis of each distance of peak positions in the plurality of radio waves.

In the present invention constituted as described above, a finger allocating section allocates path timings corresponding to peak positions of a plurality of radio waves being arrived from a base station through a plurality of paths to a plurality of finger sections, respectively, and further decides a path tracking range in each of the plurality of the finger sections on the basis of respective distances of peak positions in the plurality of radio waves, while the plurality of radio waves are inversely spread within a path tracking range decided by the finger allocating section among segments positioned before and after a path timing allocated by the finger allocating section in each of the finger sections, whereby data transmitted from the base station is regenerated.

In these circumstances, for example, when a plurality of radio

waves being arrived from the base station to a mobile station have distances of peak positions, which are narrow from one another, the finger allocating section narrows a path tracking range in each of the finger sections. Accordingly, it becomes possible to conduct inverse spreading within a path tracking range independent from other path tracking ranges in each of the finger sections.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will be explained in more detail in conjunction with appended drawings, wherein:

FIG.1 is a block diagram showing a constitutional example of a mobile station in a conventional CDMA communication system;

FIG.2 is a graphical representation illustrating an example of a delay profile prepared in a delay profile section shown in FIG.1;

FIG.3 is a graphical representation for explaining fluctuation in peak positions (path timings) of respective radio waves shown in FIG.2;

FIG.4 is a block diagram showing a constitutional example of the finger section shown in FIG.1;

FIG.5 is a graphical representation illustrating another example of a delay profile prepared in the delay profile section shown in FIG.1, and

FIG.6 is a block diagram showing an embodiment of a mobile station in CDMA communication system according to the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS